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## Global Climate Change, The Political Economy, and Development A Case Study: The Kingdom of Tonga

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Global Climate Change, The Political Economy, and Development A Case Study: The Kingdom  
of Tonga

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30 April, 2018

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Globalization has created prosperity and growth for many of the countries across the globe especially in the Global North, which experience some of the greatest benefits of globalization while being the least affected by its negative impacts. Small island nation states tend to experience these negative impacts of globalization more often than the states that are fueling these trends. Globalization has many meanings, but the most agreed upon definition is the increasing interaction between people and corporations due to advances in transportation and communication technology. These advances have created a more interconnected world where trade, and culture have become international in their scope. Though it has been called an economic process globalization has grown to encompass multiple aspects of modern society (Albrow, King, 1990).

Many of these impacts deal with issues of development, resources and the constant threat of climate change. These issues strongly affect Small Island Developing States (SIDS) due to their small size, lack of land, resources, and geographic location. The focus of my research is on a SIDS in the south pacific- the Kingdom of Tonga and its response to the negative impacts associated with globalization. I chose this country due to my own familial connection to it, and because it was not a colonial territory or colony compared to other countries in the South Pacific. Tonga's history of trade with the European powers along with its ability to maintain its sovereignty during the era of European and U.S colonization truly makes it an exceptional case in certain respects in terms of consequences of globalization.

The Kingdom of Tonga is an island nation comprised of 169 islands 36 of them inhabited. It has a population of 107,122 with 70 percent of the population residing on the main island of Tongatapu. Tonga was known as the friendly islands to many westerners since first contact with Europeans were friendly. By the mid-19<sup>th</sup> century the country was united into a

single Kingdom by George Tupou the First. Due to his leadership the history of Tonga differs from most Polynesian islands in that the European powers treated him on equal footing and this helped protect Tonga from colonization. His legacy also extends to him crafting the constitutional law that designated land within the Tonga can only be given to natural born Tongans. This was due to his travels to neighboring countries such as Australia and New Zealand in 1853 and observing the state of their native populations. It was influenced by the natives in these states lacking land and being forced into a state of poverty, this law still stands today.

During the 20<sup>th</sup> century Tonga became a British protected state status, under a treaty of friendship which had Britain look after its foreign affairs until 1970. This came in response to German imperialism within the South Pacific before and after WW1. Under this treaty Tonga was the only South Pacific nation to retain its monarchical government. The country never relinquished its sovereignty to any foreign power although it was exposed to colonial pressure. The treaty between Tonga and Britain was renewed annually until 1970 when Queen Salote Tupou the third made arrangements to end this agreement between the two nations. In 2010 the country took a decisive step by becoming a constitutional monarchy from originally being an absolute monarchy. The country established legislative reforms allowing for partial representative elections becoming a constitutional monarchy.

Within my report I plan to look at the impact of globalizations from multiple levels from the national to the individual so that I may understand the impact and the responses taken to benefit and combat these effects associated with globalization. I will first explore the regional impact on the south pacific from intra- governmental responses and programs designed specifically to counter act the effects. I will also explore how the Kingdom of Tonga itself has responded to the detrimental effects of a global economy, while also examining the impacts on

the societal sphere. Finally, I hope to explain the disparities associated with globalization and how these disparities disproportionately impact small island nation states from impairing their development while also harming the natural resources and citizens.

Literature review:

Globalization (Olwig and Sorensen, 2003) is responsible for both positive and negative consequences for countries involved within the global economy. While many countries experience the positive effects of globalization, such as the importation of cheaper goods and services. Other states specifically SIDS tend to be disproportionately affected by the negative impacts of globalization. The impacts can be seen by how SIDS have limited natural resources, their general isolation particularly those within the South pacific along with a host of other issues such as their vulnerability to climate change, and fragility to natural disasters. Along with their marginalization within the global economy and lack of sustainable development.

There are many books that deal with the concept of globalization and its impact on the many social, and political aspects of a society. The book “Work and migration: Life and Livelihoods in a Globalizing World” by Karen Olwig and Ninna Sorensen reveals how globalization and Immigration are linked historically through advancements in technology (Olwig and Sorensen, 2003). The industrial revolution, brought troves of European immigrants to the United States of America to work in factories. Other examples include the current migration of peoples from northern Africa to Europe seeking economic opportunity and leaving behind countries that have been embroiled in wars. Within the book “Work and migration: Life and livelihoods in a globalizing world” author Karen Olwig speaks about the push and pull factors that lead people in economically less developed areas to economic centers. These factors are the livelihoods people experience within their homes or communities which consist of a

means of “living, maintenance, sustenance, especially to earn, gain, and make a living”. (Olwig and Sorensen, 2003) Much of migration is impacted by globalization, specifically the management, and use of resources within developing or global south nations, by those nations that lie within the global north. Much of what Olwig mentions relates to the issues of those within the South pacific region. Their place within the global south impacts their well-being in several ways not shared by other nations within the global south.

Within these next few literary sources I will examine how globalization has created disparities in development between the SIDS and other nations within the Global South. The United Nations World Tourism Organization (UNWTO) website has a page dedicated to the sustainable development of tourism. The website page consists of the meetings held between the prime ministers of SIDS during the years from 1999-2014 and feature the nations within the different regions (Sustainable Development of Tourism, 2018). The regions of focus tended to be those islands located within the Mediterranean, Caribbean, south pacific, and the Indian ocean. The focus of the meetings is on sustainable economic development and tourism, disaster risk management and climate change (Sustainable Development of Tourism, 2018) The effects of climate change are inclined to effect small island nations before most other nations. These affects include rising sea levels, ocean acidification which directly impacts the livelihood of those on the islands in a number of ways from social to economic Sustainable.

Melania's Baba article 2015 on the "Threat of Globalization to Pacific Island Countries" details how many aspects of globalization have affected small island nation states. Baba brings to attention how modern technology especially communication technology, has created a more inter-connected world with both positive and negative effects. One of the adverse effects of these has been the rise of world cultures that have engulfed the cultures of the less developed states,

causing them to lose many aspects of their culture, their values and distinctiveness (Baba, 2015). Pacific Islands have usually been portrayed as island paradises with sandy beaches, friendly locals and international hotels at the most interesting tourist locations. While tourism is a major economic contributor to the economies these islands it gives rise to many problems such as sex tourism, the commercialization of the local cultures; and environmental degradation. These impacts have directly affected the social, economic, cultural, and political development of these countries and detrimentally impacted their natural environments such as the degradation of their vulnerable coastlines. (Baba, 2015)

These negative aspects have not alluded the leaders of Island countries, there have been U.N meetings dealing with the issues of globalization. The prime minister of Jamaica has spoken about these issues concluding that "traditional notions of peace and security no longer applicable in interconnected world" (SIDS Challenges and Issues, 2015). Many of these issues such as transnational crime, illicit exploitation of resources, climate change and natural disasters are but a few of the similar issues that both scholars and heads of government have agreed to be detrimental to the development of small island developing states. Former Secretary-General Ban Ki-Moon of the United Nations has stated in this meeting that countering the negative aspects of globalization is a global challenge along with it being the collective responsibility of the international community. To impede the tide of climate change which small island nations are on the "front line of" due to its immediate impact on their environments and ecosystems from the "increasing frequency of natural disasters that have exacerbated conditions leading to community displacement and migration" (SIDS Challenges and Issues, 2015).

The scholar, Robert Read, details the positive aspects of globalization while also highlighting the challenges that Small Island Nations face, his work "The implications of

Increasing Globalization and Regionalism for Economic Growth of Small Island States" details the positive aspects such as their strong "economic growth and social development within the last three decades despite their small size." (Read, 2003) Though globalization has brought many benefits to society through international trade, increasing industrialization and development, along with improvements in information technology, have made the transport of goods and services much cheaper and efficient. (Read, 2003) The intersecting of these three aspects have created a more interconnected world that is more reliant on information technology to produce wealth and capital. However, the negative aspects of these intersecting points have, in turn, increased regionalism among many countries. Examples include the European Union (EU) and the NAFTA agreement. "Though Globalization and international-interdependence is a positive aspect, it however increases the likelihood of Small island nations states being exposed to economic and financial instability due to exogenous shocks"(Read, 2003). Read further highlights how the many complexities of SIDS create the current issues they face within the globalized world from location, to their isolation.

Tourism within the south pacific has delivered many benefits as stated in the paragraph above, however these benefits are impacted by the many vulnerabilities of the region. Some of these stems from global economic crises, such as the global recession which led to a downturn in tourism within most pacific island destinations (Momsen and Scheyvens, 2008). This dependency on the tourist sector has created many issues from its "unequal relations and of dependency and encouraging inequitable socioeconomic and spatial development" (Momsen, Scheyvens, 2008). Much of the article "Tourism and Poverty Reduction: Issues for small Island States" details both the negative aspects of tourism while also highlighting the role of most



pacific island governments, and local communities take in managing tourism (Momsen and Scheyvens, 2008).

James Mak, one of the University of Hawaii's economic professors, examines the economies of pacific island countries and the natural resources they have access to. Within his article "Pacific Island economies" he examines the many aspects of their economies with lifestyles and their access to resources and technology. In looking at the resources of these island nations it is made clear that within the global economy; pacific island nations are at a greater risk to global issues than most nations. These risks are impacted by their lifestyles and geographic location. People of pacific island nations have a higher percentage of subsistence living compared to the rest of the world, which depends on the manufacturing of goods and services. Climate change and natural disasters have a greater impact on the livelihood of people due to their dependence on their immediate environment.

The "Islands of Globalization Pacific and Caribbean perspectives", a journal by Esther Figuerda, Gerard A. Finin, Scott Kroecker, Katerina Martina Teaiwa and Terence Wesley-Smith, discusses globalization from the perspective of island nations specifically those located within the Pacific and Caribbean. Much of the journal articulates the perspectives of globalization from an island centered perspective using two "Honolulu based programs the pacific islands development program and the East West center" (Figuerda, Finin, Teaiwa, Wesley-Smith 2007). These centers worked to analyze the impending effects of globalization and how island nations can get the most benefit from globalization. Much of the journal looks at cross regional collaboration between pacific and Caribbean scholars. These linkages examine the three focal points of island cultures and how globalization has impacted them (Figuerda, Finin, Teaiwa, Wesley-Smith 2007). The journals relevance to my report stems from the collaboration between

pacific and Caribbean researchers looking to benefit from globalization, while stemming the many consequences associated with it.

There have been many U.N committee meetings to tackle the issue of climate change. However, there has been little to show for, especially in the case of island states who are the first to see the effects and most affected. The second U.N committee, Speakers Warn at United Nations Ocean Conference recently debated the escalating disasters which are climate-related and the trends which must be addressed to limit these risks (Vital Marine Habitats, 2017). The meeting highlighted the risk such as how climate-related disasters impede sustainable development, while also undermining states efforts in poverty eradication, (Vital Marine Habitats, 2017). Climate related disasters plunge an additional 26 million people into poverty each year alone; those numbers rise in the case of economically less developed nations. Representatives from both the Caribbean Community (CARICOM) a coalition of Caribbean states, and Pacific small island developing states have both mentioned how ignoring the links between disaster and development can no longer happen within the international community with refocusing efforts to allow access to financing for development resources. While the international community has acknowledged climate change there has been minimal action taken, and small island states can no longer wait for action.

There have been many meetings on the topic of sustainable development and climate change. The World Tourism Organization has also developed and been involved with the implementation of sustainable development. Sustainable development by the WTO has been categorized as using tourism to foster this development which, for Small Island nation states, is very important to their economies (World Tourism Organization, Sustainable Development of Tourism, 2014). The WTO has been looking at cross regional collaborations while observing

individual programs implemented by states such as Samoa who have also been focusing on sustainable development. While this article shows that there is a history of addressing the issues of development in the case of Small island development states, there is little action from the global community to address the many risk and impacts that impede these developments.

The Kingdom of Tonga was recently labeled the second most at risk country due to its many environmental risk factors, by the Secretariat of the Pacific Regional Environment Programme website. In 2014 the island of Ha'appai was hit by a tropical cyclone which displaced 70 percent of its residents. Within that year alone the island nation was hit with three environmental disasters including a severe drought, which affected agriculture products targeted for export (Secretariat of the Pacific Regional Environment Programme, 2015). The eruption of a volcano near Hunga Island also greatly disrupted international and domestic air transportation. Unlike the U.S. or Japan, the Kingdom of Tonga lacks the necessary resources to tackle environmental disasters. These disasters affect multiple facets of life on the islands impeding economic development and furthering the disparities between the island and the rest of the world.

The majority of my sources looked at the impact of globalization on the environment and development, this one differs by looking at how globalization it impacts public health. The article "The health impact of trade and investment agreements" examines the regional and international agreements that pose a risk to public health (Barlow, 2017). These trade agreements have three mechanisms that impact public health. The first mechanism consists of how importation impacts consumption from the importation of goods such as sugary and alcoholic beverages. These imports lead to competition with domestic firms, which leads to further consumption of these goods which are usually alcoholic and sugary drinks, tobacco

products and processed foods. Secondly its impact on income and social issues such as inequality and poverty which can be further exacerbated due to the increasing competition (Barlow, 2017). And third these agreements have specific clauses which can impact public health by including protections that impact the willingness of governments of introducing new regulations (Barlow, 2017). This article shows how monetary structures and agreements further increase the disparities of globalization.

The article "Globalization, Diet, and Health: An example from Tonga looks to examine the effects of globalization on health and diet by using the Kingdom of Tonga as a case study. The study looks at aspects such as increased flow of goods, people, and ideas, which began in the 60s when pacific islands began to open to globalization (Evans, Fusimalohi's, Sinclair, Liava'a's, 2001). Using Tonga, the study examined why people within these micro states began consuming processed, less nutritional and healthy foods as opposed to their traditional foods. There was an increase in cardiovascular diseases along with diabetes, even though there are educational programs centered around health awareness, and measures to encourage healthier lifestyles (Evans, Fusimalohi's, Sinclair, Liava'a's, 2001). However, these programs don't address the economic issue of Tongans choosing less nutritional foods, showing how the public health issue is also an economic issue caused by increasing globalization.

The "Vulnerability Index and Small Island Developing States" by Lino Briguglio looks to examine the vulnerability of SIDS and how that vulnerability is impacted by economic, environmental, or social issues. It also stresses the difference between vulnerability and poverty or "economic backwardness" (Briguglio, 2003). Briguglio looks to give SIDS special attention due to their place within the global market along with their lack of resources in responding to their vulnerabilities whether its environmental or social " (Briguglio, 2003). Even running the

government within SIDS nation tends to be more expensive due to the cost of administration on such a small population further increasing their economic vulnerability. The relevance of Briguglio's work to my capstone stems from his index in identifying the vulnerabilities of SIDS that differ from other nations either categorized as developing states or within the global south.

350 Pacific is a grassroots organization dedicated to tackling the issue of climate change within the Pacific. The organization was inspired by the 350 organization which was founded by environmentalist and activist Bob McKibben. The organization has spread throughout the globe and has impacted climate change through mass public action which happens from the bottom up. This has inspired the current 350 Pacific organization, which works with organizers from 15 Pacific Island countries, “to highlight the vulnerabilities of our countries to climate change while showcasing our strength and resilience as a people” (350 Pacific, 2018). The organization has been mobilized within the Kingdom of Tonga and a chapter was established in 2010. Within Tonga the organization has observed the impact of climate change within the island nation, using a framework to identify the aspects of climate change. This framework includes the observation of rainfall on the island Nuku’alofa, which has seen a steady decline in annual rainfall, but an increase in extreme rainfall. Other aspects include temperature increase, which will continue as long as the current emissions level continues. The last aspect is the rising sea level which has been observed by satellite to have risen by “6mm since 1993 which is about double the global average” (350 Pacific, 2018). 350 Pacific is a grassroots organization attempting to tackle issues of climate change from the bottom up as opposed to the general way of bottom down.

My last source observes tourism within the Kingdom of Tonga, looking at nature-based tourism within Vava'u. The article looks at the vulnerability, and resilience of nature-based tourism. Some of these are attributed to the islands remoteness and air travel dependence, with a

lack of national policies from decision makers and limited human and financial resources. These points converge creating an issue for the state due to its dependence on tourism for economic and human development. In looking at the vulnerabilities of tourism, in Tonga's case I am shown how these vulnerabilities are impacted by both national and global issues.

These literary sources contribute to my capstone by examining the economic, social and environmental vulnerabilities of Small island nation states within the south pacific region. They also look at the many differences between these islands and how proper measures for each island may or may not resemble each other due to the many complexities of each island. In looking at the kingdom of Tonga these sources assist me in examining the disparities caused by globalization along with how its history of non-colonization has impacted its standing within the international community. My research question is how globalization has impacted the development of Small island nation states, and what are the disparities caused due to globalization.

### **Theoretical perspectives**

The theories that have been incorporated within my report, consist of Immanuel Wallerstein's World Systems theory (Elwell, 2013) Dependency Theory (Ferraro), Edward Said's Post Colonialism (Mitchell, N.D.) and a critique of Modernization theory by Nick Anda. World systems theory encompasses many of the societal aspects of globalization. It begins with a society's position within the global economy which occupy three stages. These stages are core states, semi-periphery, and peripheral each state occupies one of these levels, which has a strong resemblance to the colonial model of the early 20th century. Peripheral states are nation-states exploited for cheap labor, raw materials, and agricultural production. Semi-peripheral states are those in between the core and peripheral, meaning they're also exploited by core nations, while

also contributing to and having a role in the exploitation of peripheral nations. Core states are nations within the global north which include the countries of Europe, and North America. The core states generally have a history of colonialism and exploitation that is still prevalent today, it has only taken on a different shape. The different shape consists of core nations being able to dump their waste within peripheral nations along with a host of other actions from "exploiting the cheap labor, dump in their environment, and abuse their consumers and workforce." (Elwell, 2013). Wallerstein's world systems theory portrays how issues of global inequality stem from the colonial history of nation states which are further reinforced through economic and political policies.

These policies coincide with these nation-states dependency on core states. Using dependency theory (Ferraro) along with the Nick Anda's critique of modernization theory I can observe how the current system of capitalism, or modernization has impoverished many nation-states while contributing to their underdevelopment. This underdevelopment is defined by their lack of resources which is the case of many Pacific Island nations such as Tonga; along with their dependence on a limited number of agricultural exports leaving them vulnerable to global market fluctuations fueled by the consumerism of developed nations (Anda, 2015). Anda's critique of modernization theory in relation to Pacific Island nations also includes how it is not applicable within these nation states due to their lack of industrial raw materials, isolation, and smallness of urban populations. Due to these factors pacific island nations are not capable of the level of development seen in developed nations (Anda, 2015). Many of these factors are shown within the dependency theory and one its contributors to underdevelopment is the loss skilled migrants in the case of nations like Samoa, and Tonga who have large migrant populations

abroad. In the case of Tonga these emigrations have created a dependence on remittances which have become the largest contributor to its economies.

Both Wallerstein's and Ferraro's theories encompass the issues facing the South Pacific due to the regions history of colonization and in the Kingdom of Tonga the aspect of trade or "early economic encounters" which has been called proto-globalization. Unlike most states within the region, the Kingdom of Tonga was involved in numerous trades and economic encounters with European explorers and traders bartering supplies and using money in later exchanges which resembles what is seen in today's global economy. The resources of the islands weren't extracted for profit for a colonial state, instead the islands were known as trade depots eventually becoming a major manufacturer of coconut oil for a market where it was sold to European traders in Tonga. However, becoming an export-based economy has contributed to the Island nations dependence on limited economic resources which are affected by the consumers of developed nations. These resources include the nations agricultural sector, tourism, and reliance on remittances. Though Tonga wasn't a colonial state its small size has pushed it into the realm of a peripheral state while simultaneously becoming dependent on its few resources in order to modernize.

Using Said's theory of Post Colonialism, the issues facing the South Pacific are due to the regions history of colonization or in the case of the Kingdom of Tonga trade or "early economic encounters" which has been called Proto-globalization (Van Der Grijp, 2010). Unlike most South Pacific states within the region, the Kingdom of Tonga was involved in numerous trades and economic encounters with European explorers and traders bartering supplies and goods using money in later exchanges which resembles what is seen in today's global economy. The resources of the islands weren't extracted for profit for a colonial state, instead the islands



were known as trade depots eventually becoming a major manufacturer of coconut oil for a market where it was sold to European traders in Tonga. Wallerstein's world systems theory portrays how issues of global inequality stem from the colonial history of nation states which are further reinforced through economic and political policies.

These policies coincide with the theory of postcolonialism where European powers controlled the resources and culture of a colony. Many of these colonies were exploited for their natural resources to fuel industrial capitalism within Europe and North America. The aspects of postcolonial theory consist of the study of colonialism and the effects it had on countries and cultures. Along with the study of colonialism it also looks at how these countries and cultures have responded and resisted these encroachments. The theory has three broad stages. The first stage consists of beginning to become aware of the social, psychological, and cultural inferiority enforced by being a colonized state. While the second stage is the struggle for ethnic, cultural, and political autonomy, while the last stage consists of growing awareness of a cultural overlap, and hybridity. IN observing the Kingdom of Tonga its lacks, a colonial history unlike the rest of the pacific, however it was an integral part of the global market which has contributed to the nation's dependence.

## **Methodology**

The methods of research within my report consisted of qualitative and quantitative research. My research consisted of scholarly articles, with the use quantitative data detailing the effects of climate change on The Kingdom of Tonga. The data explored the many aspects of climate change from rising sea levels, acidification of the ocean and increasing natural disasters which have been more frequent the last two decades. Other aspects of my quantitative data help to understand the impact of globalization on a local level by observing how the cultural norms of

the islands have been overwhelmed by the process of globalization in favor of more western oriented cultural norms. My qualitative data comes from many Scholarly sources where they analyzed the detrimental effects of Globalization and the disparities created, that disproportionately affect Small Island Nation states. The qualitative aspect of my research looks at local communities along with the national and regional perspectives to better gauge the exacerbation of social, and national issues within the Kingdom of Tonga. The majority of my sources were retrieved from scholarly peer reviewed journal articles. I also obtained information from the United Nations environmental program, U.N world tourism website, and the Intergovernmental Panel on Climate Change (IPCC). The majority of my sources are secondary while the ones from U.N council meetings, and the IPCC are primary.

#### Findings:

My findings on the impact of Globalization included charts and tables detailing the impact of climate change on the Island of Tonga, with how increasing natural disasters have impacted the development of the island nation. Through my research I discovered that many of these issues are interconnected through globalization, with them originating from globalization, and or the current system of industrialized capitalism. Not only are these issues harmful, and destructive to the Kingdom of Tonga but they are ongoing issues that affect most south pacific islands. In looking at Tonga, majority of the island nations environmental issues directly impact its development. The Nation is comprised of 178 Islands with 38 of them populated by human settlements. However, limited size and resources greatly affect the Kingdoms ability to develop with much of its economy coming from remittances from abroad, tourism, and lastly subsistence agriculture; though some farmers have moved to grow cash crops within the last three decades these crops are greatly affected by the weather conditions of the islands. These conditions greatly

impact the islands in a myriad of ways, rising sea levels have begun displacing people who live in the coastal regions of the islands, causing a myriad of other problems that disrupt life on these islands.

The quantitative data on the impact of climate change looks at global climate models which uses computer technology along with data on the atmosphere, ocean, land and other aspects of the environment to look at future climate change. Scientist from the Pacific Climate Change Science Program looked at 24 models finding that 18 matched the climate of the western tropical pacific region and have been used to develop climate projects for Tonga. The climate projections for Tonga are based on three possible scenarios developed by the Intragovernmental Panel on Climate Change or (IPCC). These scenarios are based on a set of assumptions about future population changes, economic development and technological advances. The emissions scenario looked at multiple levels of emission from low (B1), medium (A1B) and high (A2), for time periods around 2030, 2055 and 2090 (Pacific climate Change Science Program, 2018)

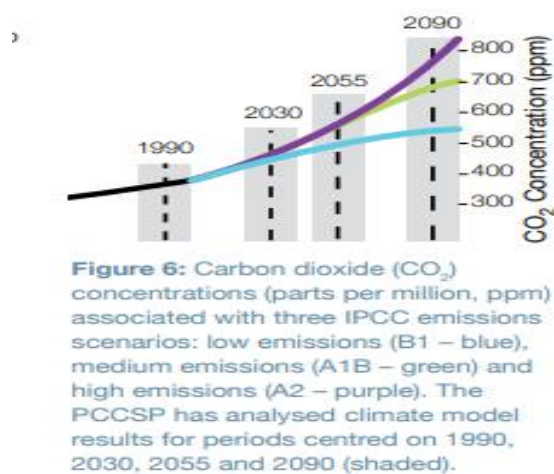


Figure 1 (PCCSP, 2018)

**Table 1:** Projected annual average air temperature changes for Tonga for three emissions scenarios and three time periods. Values represent 90% of the range of the models and changes are relative to the average of the period 1980-1999.

	2030 (°C)	2055 (°C)	2090 (°C)
Low emissions scenario	0.2–1.0	0.5–1.5	0.8–2.0
Medium emissions scenario	0.2–1.2	0.7–1.9	1.3–2.9
High emissions scenario	0.3–1.1	1.0–1.8	1.9–3.3

Figure 2 (PCCSP, 2018)

Looking at figure 2 from the emission scenarios shows whether emission levels follow a low or high model the greenhouse gas emissions will continuously impact the environment of Tonga from increased air and sea temperatures. The bulk of greenhouse gas emissions generally come from larger industrialized nations such as China, the United States, and E.U nations. Unlike the Kingdom of Tonga these nations will not feel the immediate impact of climate change. Increased temperatures will lead to changing rainfall patterns, less cool weather, along with less frequent more intense tropical cyclones. These weather conditions impact the agricultural sector of the island economy from its irregularities which can create droughts, and more destructive natural disasters. Other aspects of this scenario include sea-level rise another issue for the island nation. Sea level rises might be one of the most detrimental effects of climate change that will impede development of infrastructure, and government services due to its displacement of people and destruction of infrastructure. Many of the environmental issue that face Tonga are interconnected along with the disastrous effects they cause. Sea level rises not only impact the environment, but other environmental factors such as cyclones become stronger and deadlier due to rising sea levels.

**Table 2:** Sea-level rise projections for Tonga for three emissions scenarios and three time periods. Values represent 90% of the range of the models and changes are relative to the average of the period 1980-1999.

	2030 (cm)	2055 (cm)	2090 (cm)
Low emissions scenario	5–16	10–27	16–47
Medium emissions scenario	4–16	10–31	20–59
High emissions scenario	3–17	9–31	21–62

Figure 3 (PCCSP, 2018).

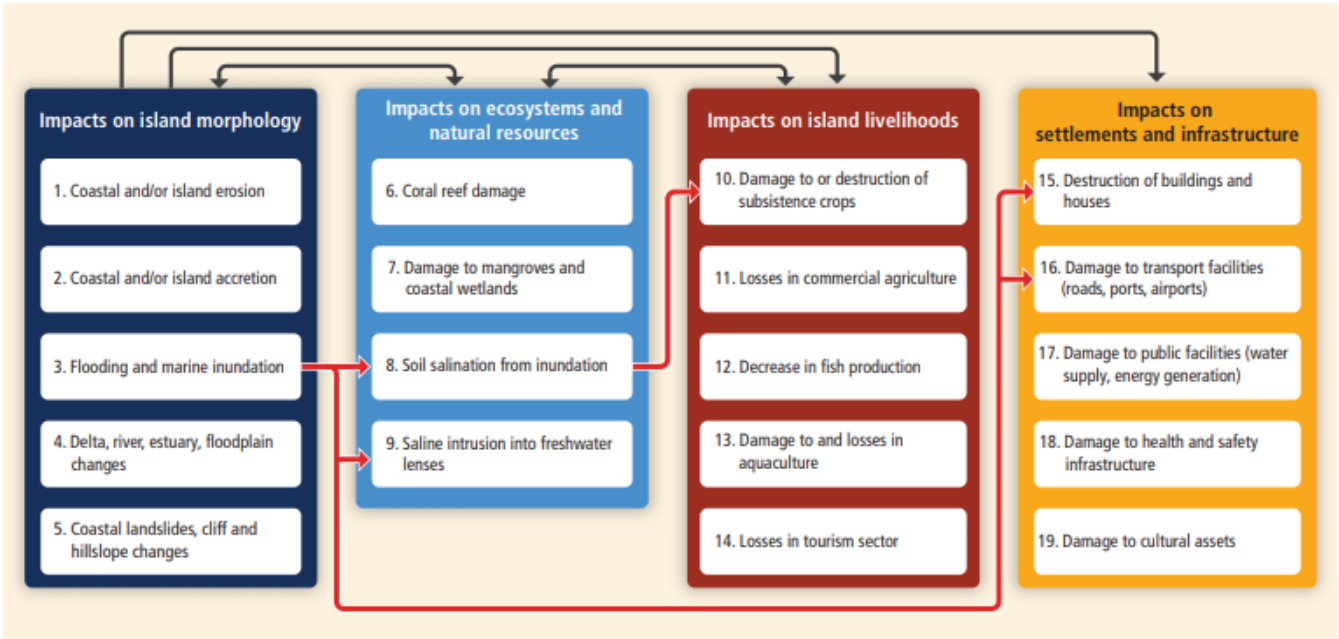


Figure 4 (PCCSP, 2018)

My findings also included how a more interconnected world affects the health of the island populations in a multitude of ways particularly how trade agreements have impacted public health. The islands have had a history of subsistence farming which has been impeded by the shift in producing cash crops for export along with trade agreements which have brought in processed foods and sugary drinks, which tend to be cheaper to buy than the locally produced crops and food. Within Tonga and most of the South Pacific NCDs including diabetes, lung, and heart diseases account for 70 percent of deaths in the Western Pacific. Many factors from low levels of physical activity combined with high consumption of starch-heavy imported junk food, carbonated drinks and fat-rich animal meats have caused close to 70 per cent obesity among the Tongan population. The use of surveys shows more than 50 per cent of Tongan household expenses are on imported foods, a majority of which are high in sugar, salt and fatty contents, which also points to low consumption of nutrient-dense foods, such as fruits and vegetables. Food consumption within the islands has become a socio-economic issue due to the burden these health issues cause for the citizens and Tongan economy. Though there have been steps taken to tackle this ongoing issue from food education focusing on healthy eating habits. However, the issue of eating habits isn't affected by food education but by economics, majority of Tongans are buying these imported foods due to them being cheaper than their local counterparts. This economic issue can be attributed to globalization which has created a more interconnected world where countries have become more dependent on the global economy which can negatively impact smaller nations with less resources.

Though the issues are separate they're interconnected due to the sources of them being linked to a more interconnected world which thrives off the exploitation of resources and people. The Kingdom of Tonga has been indirectly and directly impacted by this exploitation. The

environmental impact of fossil fuels has created a climate change epidemic that will hurt and be seen not only within Tonga, but many of the island nations within the South Pacific. The environmental impact also stifles development due to its overarching affects. Tropical cyclones not only affect coastal regions but also affect infrastructure and homes, the most recent cyclone has affected 70 percent of the population on Tongatapu. These affects include damage to water supplies, government buildings, churches and homes. Water supplies being damaged risk contamination which can create risk for waterborne diseases, and outbreaks while infrastructure damage displaces thousands of people. These natural disasters have drastic impacts depending on the island. On islands where resources are focused on agriculture a disaster can create a food shortage and greater dependence on international aide and imports further impacting health and wellness along with economic development.

#### Analysis:

Wallerstein's world system theory, Said's cultural imperialism, and dependency theory were all very useful in looking at the negative impacts of globalization on small island nation states. In looking at the Kingdom of Tonga and the south pacific region, Said's cultural imperialism helped me in examining how tourism is another form of imperialism specifically cultural in how tourism appeals to western ideas of these regions. In looking at tourism within the south pacific region cultural imperialism is strongly tied to tourism due to these islands being framed as escapes and paradises generally for western consumers. In using Wallerstein's world system theory, the agricultural exports of Tonga came to mind due to their consumers being nations such as Japan, Australia, and other economically more developed nations who import crops such as squash, and a myriad of root crops.

While using Ferraro's dependency theory, I was able to examine the nation's dependence on its few economic resources due to its placement within the global market. Tourism, foreign aid, and remittances are the biggest contributors to the Tongan economy besides its agricultural exports. The island nation's dependence on these few resources stems from the integrated global economy which takes advantage of resource-rich states with underdevelopment. However, due to the Kingdom of Tonga lacking natural resources, and land has created limited choices to spur development for the nation. Anda's critique of modernization theory in relation to Pacific Island states has coincided with my data of the disparities caused by globalization. The reliance on remittances sent from migratory populations within more developed nations, to their dependence on tourism. Including the negative impact food imports have had on the health of Tongan citizens due to them being cheaper than the healthier alternatives, while also disrupting the cultural norms of island societies as was the case for the Kingdom of Tonga which has attempted to modernize or adapt the cultural norms of the west.

#### Conclusion:

In conclusion, globalization has created a myriad of disparities for the island nation of Tonga, stemming from environmental, development, and economic. These environmental disparities are created by the nation's dependence on environmental resources which are limited such as land, and water. Limited amount of land water affects the nation's ability to develop due to its limited resources in supporting a growing population, along with disaster management. Increasing natural disasters will continuously impede development due to the amount of resources that go into managing these disasters along with some of them being seasonal such as cyclones which have gotten increasingly stronger due to climate change. Another environmental impact is ocean acidification which directly affects the nation's dependence on its sea resources such as fish and



it coral reefs which are tied to tourism. These environmental factors impact tourism due to tourism depending on the environment as either the attraction or venue.

The increasing degradation of the environment impacts multiple economic sectors of the island from agriculture, to tourism, and development, though there has been international action on stemming climate change such as the Paris accords, climate change has already passed the tipping point. The Kingdom of Tonga in response to these issues has already acted by developing sustainable development programs along with coordinating with other Pacific Island nations. However, to further combat this issue a more regional approach must be undertaken to further strengthen the Tonga and the greater South Pacific region. Though there have been regional coalitions formed channels of communication, and collaboration must be strengthened in order to better combat these disparities. The strengthening of these regional ties must also include more action from the larger developed nations within the pacific such as Australia, and New Zealand. Once these are addressed other aspects such as the negative impact on public health due to increased consumption of processed foods can be better addressed in order to better the overall livelihood of the islands.

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